Comparisons of Job Characteristics

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Biological Technicians (19-4021)

Compare Knowledge
Compare Skills
Compare Abilities
Compare Detailed Work Activities
Compare Tools and Technologies

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 68

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Biological Technicians (19-4021)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Biology	3.7	18.9	16.8	<	Expanded education and/or training may be required
Chemistry	4.8	13.5	19.8	>>	Current knowledge level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 81

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Biological Technicians (19-4021)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Reading Comprehension	10.7	14.1	13.8	0	Current skill level may be sufficient
Science	4.5	11.2	9.0	<	A higher skill level may be required
Mathematics	6.2	9.4	9.0	0	Current skill level may be sufficient
Troubleshooting	4.5	7.9	5.4	<<	Extensive development of skills in this area may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 93

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Biological Technicians (19-4021)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Near Vision	11.1	13.9	12.2	<	Some improvement in abilities may be required
Information Ordering	9.9	12.3	11.8	0	Current ability level may be sufficient
Selective Attention	8.7	11.8	10.0	<	Some improvement in abilities may be required
Category Flexibility	9.0	11.5	13.5	>	Current ability level is likely sufficient
Mathematical Reasoning	6.3	10.1	10.8	0	Current ability level may be sufficient
Flexibility of Closure	7.8	10.0	9.4	0	Current ability level may be sufficient
Perceptual Speed	7.4	9.4	9.0	0	Current ability level may be sufficient
Visual Color Discrimination	6.4	9.3	8.7	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 90

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Biological Technicians (19-4021)

Work Activities	Exclusivity of Activity
Adhere to safety procedures	12
Analyze biological research, test, or analysis data	70
Analyze chemical experimental, test, or analysis data or findings	69
Analyze scientific research data or investigative findings	27
Collect scientific or technical data	30
Communicate technical information	4
Compile numerical or statistical data	38
Conduct analyses or tests of organic compounds	71
Conduct field research or investigative studies	52
Conduct laboratory research or experiments	57
Conduct standardized qualitative laboratory analyses	62
Conduct standardized quantitative laboratory analyses	62
Cultivate micro-organisms for study, testing, or medical preparations	84
Develop or maintain databases	30
Develop tables depicting data	33
Examine biological or other material specimens under microscope	73
Explain complex mathematical information	30
Follow microbiology procedures	74
Isolate and identify micro-organisms	82
Maintain records, reports, or files	5
Perform statistical analysis	71

Prepare reports	8
Prepare sample for laboratory testing, analysis, or microscopy	74
Prepare technical reports or related documentation	22
Recognize plant diseases	72
Record test results, test procedures, or inspection data	48
Use biological research techniques	68
Use biological testing instruments	73
Use chemical testing or analysis procedures	54
Use computers to enter, access or retrieve data	3
Use health or sanitation standards	62
Use knowledge of investigation techniques	16
Use knowledge of metric system	39
Use laboratory equipment	60
Use mathematical or statistical methods to identify or analyze problems	30
Use microscope	71
Use precision measuring tools or equipment	17
Use quality assurance techniques	61
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 77

Focus Occupation: Food Scientists and Technologists (19-1012)
Associated Occupation: Biological Technicians (19-4021)

Tools and Technologies	Exclusivity
Autoclave and sterilizer equipment and accessories	12
Business function specific software	1
Chemical evaluation instruments and supplies	10
Chromatographic measuring instruments and accessories	16
Clinical and diagnostic analyzers and accessories and supplies	18
Computers	1
Content authoring and editing software	1
Data management and query software	1
Electrochemical measuring instruments and accessories	9
Indicating and recording instruments	2
Industry specific software	1
Laboratory baths	24
Laboratory blending and dispersing and homogenizing equipment and supplies	27
Laboratory centrifuges and accessories	13

Laboratory decanting and distilling and evaporating and extracting equipment and supplies	19
Laboratory electrophoresis and blotting system and supplies	26
Laboratory environmental conditioning equipment	24
Laboratory filtering equipment and supplies	51
Laboratory heating and drying equipment	13
Laboratory incubating equipment	20
Laboratory ovens and accessories	15
Laboratory water purification equipment and supplies	29
Pipettes and liquid handling equipment and supplies	16
Spectroscopic equipment	10
Viewing and observing instruments and accessories	4
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.